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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/776,198

02/12/2004

Seung Gyu Lee

K-0609

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7590

10/06/2006

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EXAMINER

SEVER, ANDREW T

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/776,198	Applicant(s) LEE, SEUNG GYU	
	Examiner Andrew T. Sever	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006 and 01 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,8-11 and 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,8-11 and 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/1/2006 has been entered.

Allowable Subject Matter

2. The indicated allowability of claims 16, 19, and 23 are withdrawn in view of the newly discovered reference(s) to Kuiseko et al. (US 2001/0021005). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 8, 10, 11, and 14-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawamura et al. (US 2002/0122156 as cited in the previous office actions) in view of Kuiseko et al. (US 2001/0021005.)

Sawamura teaches in figure 1 a projecting optical system, comprising:

A lamp (1) configured to irradiate light;

A color divider (2) configured to divide colors of light irradiated from the lamp;

An illumination mixer (3) configured to irradiate the light received from the color divider with equal light intensity;

A channel-changing prism (9) configured to receive light irradiated from the illumination mixer and to provide a predetermined distance between an axis of incidence light and an axis of light emitted by the channel-changing prism; and

A TIR prism (6) for changing a direction and angle of light to a predetermined direction and angle.

Sawamura, however does not teach a channel-changing prism that is rotated by a rotation device configured to rotate the channel-changing prism. Kuiseko teaches in figure 2 a

projection system that receives the light from the illumination system (40,41,42,44,33,45), which includes two channel-changing prisms (39 and 34). As shown in figure 3 a motor (74) is provided to rotate the prisms (See paragraph 64 which teaches that the “rotator” can be a prism). Kuiseko teaches in paragraphs 3-9 that by providing such rotating prisms the projector can be used for 3-D projection without experiencing vignetting, greatly improving the viewing experience. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the rotating channel-changing prism and the rotation device in the projecting optical system as it will allow for a better viewing experience at least in 3-D projection applications.

With regards to applicant's claim 3:

At least lenses 511 and 513 of Kuiseko are provided between channel changing prisms. (It should be noted that Sawamura also teaches lenses 4c and 4b that have the channel-changing prism 9 situated between it.)

With regards to applicant's claim 4:

Part 2 of Sawamura is a color wheel, which is a disk with color filters on it that rotates.

With regards to applicant's claims 8, 10, 11, and 14:

See above with regards to claims 1, 3, and 4 and note that Sawamura part 7 is taught to be a DMD panel.

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With regards to applicant's claim 15:

See paragraph 25 of Sawamura.

With regards to applicant's claims 16, 19, and 23:

Clearly the channel-changing prism of Kuiseko emits the light such that the axis of the light is substantially parallel.

With regards to applicant's claims 17 and 20:

The prism of Kuiseko includes distance with a vertical component.

With regards to applicant's claims 18 and 21:

The channel changing prism of Sawamura includes two planes that RT and RM directly point to that are substantially parallel and are responsible for the distance between the axis of incidence light and emitted light.

With regards to applicant's claims 22 and 24-26:

See above, specifically with regards to claims 1, 17, 18, and 8 respectively.

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5. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawamura in view of Kuiseko as applied to claims 1 and 8 above, and further in view of Mihalakis (US 6,375,330 as cited in the previous office action.)

As described in more detail above Sawamura in view of Kuiseko teaches a projection optical system that among other things includes a lamp and a color divider, however Sawamura does not teach the use of a reflective mirror for changing the channel of light irradiated from the lamp as it enters in to the color divider. Mihalakis teaches in figure 1 a mirror 55 for redirecting light form the light source to the light engine (62). Mihalakis teaches in column 32 lines 23-35 that the use of mirror (22 which is not labeled but from the description would correspond to the mirror on which point 55 is at) that the optical engine (all those parts after the lamp which in the case of Sawamura in view of Kuiseko would include the color divider) can be oriented with respect to the light source in such a manner as to fit better in the optical case or make it more compact. Since this is desirable it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the reflective mirror of Mihalakis in the projection optical system of Sawamura in view of Kuiseko in order to make it easier to assemble with regards to the case.

Response to Arguments

6. Applicant's arguments with respect to claims 1-4, 8-11, and 14-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,827,450 to McGettigan et al. teaches a rotating prism in figure 6A-6C.

US 4,131,345 to Carollo teaches in figure 3 at least one rotating prism 70.

US 5,515,121 to Fujibayashi teaches in figure 1 various rotating components.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "W B Perkey", with a long, sweeping horizontal stroke extending to the right.

AS

William Perkey
Primary Examiner